

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 1-12 will be active in the application subsequent to entry of this Amendment.

Amendments to the Claims

Claims 8-12 have been added directed to preferred aspects of the disclosure. More specifically, new independent claim 8 defines the organic phosphorous compound as being selected from an organic phosphonic acid or its ester, an organic phosphinic acid or its ester, a phosphorous acid ester or a hypophosphorous acid ester. Claims 9-12 are specific to the four choices available. Claim 9 is related to original claim 3, claim 10 to original claim 4, claim 11 to original claim 6 and claim 12 to original claim 7. The phosphoric acid esters of claim 5 are not included in claim 8 nor is it specified in any of the dependent claims. Basis for these claims will be apparent from the above discussion; no subject matter has been added.

Response to Double Patenting Provisional Rejection

Claims 1-7 stand provisionally rejected on the grounds of non-statutory obviousness-type double patenting as being unpatentable over claims 17-27 of co-pending application 10/822,484. Although this application is not being handled by this office, a check of public PAIR indicates that it has not yet issued. A response to this provisional rejection will be held in abeyance until such time as either this application or the referenced application contains allowable claims.

In item 3 of the Official Action claims 1-7 are provisionally rejected on the basis of non-statutory obviousness-type double patenting as being unpatentable over claims 1-9, 13 and 15-16 of co-pending application Serial No. 10/530,717. This application is still pending. A full response to this provisional rejection will be held in abeyance until such time as either this application or the referenced application contains allowable claims.

Response to Prior Art-Based Rejection

All pending claims stand rejected as being "obvious" over U.S. 6,746,768 Greinke in view of newly cited Olstowski U.S. 3,423,496.

To establish a case of *prima facie* obviousness, all of the claim limitations must be taught or suggested by the prior art. See M.P.E.P. § 2143.03. A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. *In re*

Kahn, 78 USPQ2d 1329, 1334 (Fed. Cir. 2006) citing the legal standard provided in *Graham v. John Deere*, 148 USPQ 459 (1966). The *Graham* analysis needs to be made explicitly. *KSR v. Teleflex*, 82 USPQ2d 1385, 1396 (2007). It requires findings of fact and a rational basis for combining the prior art disclosures to produce the claimed invention. See *id.* (“Often, it will be necessary for a court to look to interrelated teachings of multiple patents . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue”). The use of hindsight reasoning is impermissible. See *id.* at 1397 (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning”). Thus, a *prima facie* case of obviousness under Section 103(a) requires “some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct.” *Kahn*, 78 USPQ2d at 1335; see *KSR*, 82 USPQ2d at 1396. A claim which is directed to a combination of prior art elements “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *Id.* at 1396. Finally, a determination of *prima facie* obviousness requires a reasonable expectation of success. See *In re Rinehart*, 189 USPQ 143, 148 (C.C.P.A. 1976).

Claims 1-7 were rejected under Section 103(a) as allegedly unpatentable over Greinke (U.S. Patent 6,746,768) in view of newly cited Olstowski (U.S. Patent 3,423,496). Applicants traverse.

The combination of the Greinke and Olstowski patents do not render obvious the claimed invention because all limitations of independent claims 1 and 8 are not fairly taught or suggested in the cited patents. Moreover, claims depending from those independent claims are also not made obvious by the documents because the limitations of an independent claim are incorporated in their dependent claims. M.P.E.P. § 2143.03 citing *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988).

In more detail, Olstowski discloses that a resilient graphite structure is prepared by admixing vermicular graphite with an organic liquid, and compressing the thus-treated vermicular graphite, as seen from Olstowski’s claims. Olstowski also discloses an expanded graphite as vermicular graphite (column 1, lines 48-55), phosphorous-containing compounds such as an organophosphate and phosphine as an organic liquid (column 1, last line, and column

2, lines 1-2). That is to say, Olstowski discloses that resilient graphite structure is prepared by admixing the expanded graphite with phosphate and compressing the thus-treated expanded graphite.

Newly cited Greinke discloses a thermal management system with a thermal interface which has an anisotropic flexible graphite sheet article containing oil, as seen from Greinke's claims. Greinke also discloses that the flexible graphite sheet with thermal interface is obtained by compressing graphite particles of vermiform which are obtained by treating intercalated graphite at a high temperature, the intercalated graphite being obtained by treating natural graphite flake with the intercalant (column 5, lines 1-17). Greinke further discloses using a mixture of a strong oxidizing agent and a strong organic acid such as trifluoroacetic acid as the intercalant (column 6, lines 5-7).

Accordingly, the statements by the examiner in Item 5 of page 4 of the Office Action should be read as follows:

"Greinke teaches the use of organic acid and other oxidizing agents in intercalating material for natural graphite flakes and Olstowski teaches the use of organic liquids comprising organophosphates in intercalating material for expanded graphite".

In view of the above fact, it is impossible to combine the disclosures of Greinke with the disclosures of Olstowski. Therefore, claim 1 is not obvious over Greinke in view of Olstowski.

The heat-resistant expanded graphite sheet according to the additional claim 8 comprises an organic phosphorus compound selected from an organic phosphonic acid and an ester thereof, an organic phosphinic acid and an ester thereof, a phosphorous acid ester, or a hypophosphorous acid ester. Therefore, claim 8 is neither obvious over Greinke in view of Olstowski.

Withdrawal of the Section 103 rejection is requested because the claimed invention would not have been obvious to the ordinarily skilled artisan at the time Applicants made their invention.

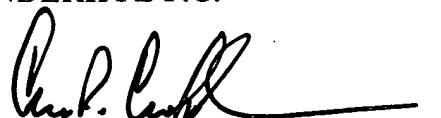
Having responded to all of the pending rejections contained in the Office Action, Applicants submit that the claims are in condition for allowance and earnestly solicit an early Notice to that effect. The Examiner is invited to contact the undersigned if any further information is required.

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Respectfully submitted,

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